UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,531	04/25/2001	Hyon T. Kim	5181-83600	7257

7590 04/05/2005	EXAMINER

Robert C. Kowert
Conley, Rose & Tayon, P.C.
P.O. Box 398
Austin, TX 78767

EXAMINER
NGUYEN, HAI V

ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _03_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _25 April 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-90_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-90_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _1-5_.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

1.   This Office Action is in response to the application filed on 25 April 2001.

2.   Claims 1-90 are presented for examination.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 1, 61 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

5.   Claims 1, 61 recite the limitation "dynamically changing **the** host system's fabric

device configuration in response to said receiving event" in claims 1, 61. There is

insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Casper et al. U.S patent # **6,687,766 B1** in view of **Blumenau** et al. U.S patent #

6,421,711 B1.

8.   As to claim 1, Casper, Method And Apparatus For A Fibre Channel Control Unit

To execute Search Command Locally, discloses a method for handling fabric state

changes, comprising:

receiving an event indicating a fabric state change for one or more host adapter

ports *(Casper, col. 47, lines 50-63)*; and however, Casper does not explicitly discloses

dynamically changing the host system's fabric device configuration in response to said

receiving an event, wherein said dynamically changing comprises bringing online or

taking offline one or more fabric devices for the one or more host adapter ports for the

host system. Thus, the artisan would have been motivated to look into the related

networking arts for potential methods and apparatus for implementing dynamically

changing the host system's fabric device configuration in response to said receiving an

event, wherein said dynamically changing comprises bringing online or taking offline

one or more fabric devices for the one or more host adapter ports for the host system.

In the same field of endeavor, Blumenau, related Virtual Ports For data Transferring Of

A Data Storage System, discloses dynamically changing the host system's fabric device

configuration *(Blumenau, volume configuration database)* in response to said receiving

an event, wherein said dynamically changing comprises bringing online *(Blumenau,

mounting)* or taking offline *(Blumenau, unmounting)* one or more fabric devices

(Blumenau, logical volumes) for the one or more host adapter ports for the host system

*(Blumenau, the gatekeeper facility responds to the mount command by allocating free

logical storage volumes to the specified LUNs, and creating an entry in the volumes*

access table or tables for the specified volume group name and the LUN to logical

volume mappings, col. 33, line 10 – col. 34, line 50).

Accordingly, it would have been obvious to one of ordinary skill in the networking art at

the time the invention was made to have incorporated Blumenau's teachings of

mounting or unmounting the devices for the host adapter ports *(Blumenau, col. 33, line*

10 – col. 36, line 4) with the teachings of Casper, for the *purpose of avoiding significant*

involvement of the system administrator in the situation of needing additional storage

volumes or of no longer need storage volumes allocated to it (Blumenau, col. 33, lines

27-40).

9.   As to claim 2, Casper-Blumenau discloses, determining an event type for said

event *(Casper, link failure; Blumenau, devices mounted or unmounted).*

10.   As to claim 3, Casper-Blumenau discloses, wherein if the event type indicates

that one of the fabric host adapter ports has lost connectivity to the fabric, said

dynamically changing comprises taking offline one or more fabric devices configured

through the host adapter port that lost connectivity to the fabric *(Blumenau, col. 33, line*

10 – col. 36, line 24).

11.   As to claim 4, Casper-Blumenau discloses, wherein said taking offline one or

more fabric devices configured through the host adapter port that lost connectivity to the

fabric comprises: reading a persistent repository that indicates which fabric devices are

currently online for the host adapter port that lost connectivity to the fabric; and taking

offline the fabric devices indicated by the persistent repository for the host adapter port

that lost connectivity to the fabric *(Blumenau, col. 33, line 10 – col. 36, line 24).*

12.   As to claim 5, Casper-Blumenau discloses, wherein said taking offline comprises

disabling an operating system node for each of the one or more fabric devices being

taken offline, wherein each operating system node provides a communication

mechanism to a corresponding fabric device *(Blumenau, col. 34, lines 51-59)*.

13.   As to claim 6, Casper-Blumenau discloses, wherein if the event type indicates

that one of the fabric host adapter ports has lost connectivity to the fabric, said

dynamically changing comprises:

    accessing a configuration file for the host adapter port that lost connectivity to the

fabric to determine if fabric devices for that host adapter port are to be unconfigured if

that host adapter port loses connectivity to the fabric; and if the configuration file

indicates that fabric devices are to be unconfigured upon lose of connectivity to the

fabric, taking offline one or more fabric devices configured through the host adapter port

that lost connectivity to the fabric *(Blumenau, col. 33, line 10 – col. 36, line 24)*.

14.   Claim 7 has similar limitations of claim 4; therefore, it is rejected under the same

rationale as in claim 4.

15.   Claim 8 has similar limitations of claim 5; therefore, it is rejected under the same

rationale as in claim 5.

16.   As to claim 9, Casper-Blumenau discloses, further comprising, prior to said

receiving an event: a host adapter driver for one of the one or more host adapter ports

becoming inactive or detached; and generating the event indicating that one of the one

or more host adapter ports has lost connectivity to the fabric *(Blumenau, col. 33, line 10

– col. 36, line 24)*.

17.   As to claim 10, Casper-Blumenau discloses, wherein said accessing a configuration file for the host adapter port that lost connectivity to the fabric comprises reading a user defined attribute in the configuration file, wherein the user-define attribute indicates whether or not fabric devices for that host adapter port are to be unconfigured if that host adapter port loses connectivity to the fabric *(Blumenau, col. 33, line 10 – col. 36, line 24).*

18.   As to claim 11, Casper-Blumenau discloses, wherein if the event type indicates that one of the fabric host adapter ports has acquired connectivity to the fabric, said dynamically changing comprises bringing online one or more fabric devices for the host adapter port that has acquired connectivity to the fabric *(Blumenau, col. 33, line 10 – col. 36, line 24).*

19.   As to claim 12, Casper-Blumenau discloses, wherein said bringing online one or more fabric devices for the host adapter port that has acquired connectivity to the fabric comprises: reading a persistent repository *(Blumenau, volume access table)* that indicates which fabric devices were previously online for the host adapter port that has acquired connectivity to the fabric; and bringing online the fabric devices indicated by the persistent repository for the host adapter port that has acquired connectivity to the fabric *(Blumenau, col. 33, line 10 – col. 36, line 24).*

20.   As to claim 13, Casper-Blumenau discloses, wherein said bringing online comprises creating an operating system node for each of the one or more fabric devices being to brought online, wherein each operating system node provides a communication

mechanism to a corresponding fabric device *(Blumenau, col. 33, line 10 – col. 36, line 24)*.

21.   As to claim 14, Casper-Blumenau discloses, wherein if the event type indicates that one of the fabric host adapter ports has acquired connectivity to the fabric, said dynamically changing comprises: accessing a configuration file for the host adapter port that has acquired connectivity to the fabric to determine if fabric devices for that host adapter port are to be configured if that host adapter port acquires connectivity to the fabric; and if the configuration file indicates that fabric devices are to be configured upon that host adapter port's connectivity to the fabric, bringing online one or more fabric devices for that host adapter port that has acquired connectivity to the fabric *(Blumenau, col. 33, line 10 – col. 36, line 24)*.

22.   Claim 15 has similar limitations of claim 12; therefore, it is rejected under the same rationale as in claim 12.

23.   Claim 16 has similar limitations of claim 13; therefore, it is rejected under the same rationale as in claim 13.

24.   As to claim 17, Casper-Blumenau discloses, further comprising, prior to said receiving an event: a host adapter driver for one of the one or more host adapter ports becoming active or attached; and generating the event indicating that one of the one or more host adapter ports has acquired connectivity to the fabric *(Blumenau, col. 33, line 10 – col. 36, line 24)*.

25.   As to claim 18, Casper-Blumenau discloses, wherein said accessing a configuration file for the host adapter port that has acquired connectivity to the fabric

comprises reading a user-defined attribute in the configuration file, wherein the user-define attribute indicates whether or not fabric devices for that host adapter port are to be configured if that host adapter port acquires connectivity to the fabric *(Blumenau, col. 33, line 10 – col. 36, line 24)*.

26.   As to claim 19, Casper-Blumenau discloses, wherein if the event type indicates that a new fabric device has been connected to the fabric, said dynamically changing comprises bringing online the new fabric device for one of the one or more host adapter ports *(Blumenau, new volume available on the adapter port, col. 33, line 10 – col. 36, line 24)*.

27.   As to claim 20, Casper-Blumenau discloses, wherein said bringing online comprises creating an operating system node *(Blumenau, a host)* for the new fabric device *(Blumenau, an additional volume)* being brought online, wherein the operating system node provides a communication mechanism to the new fabric device *(Blumenau, col. 33, line 10 – col. 36, line 24)*.

28.   As to claim 21, Casper-Blumenau discloses, wherein said bringing online the new fabric device comprises updating a persistent repository to indicate that the new fabric device is online for the host adapter port *(Blumenau, col. 13, line 57 – col. 14, line 104)*.

29.   As to claim 22, Casper-Blumenau discloses, wherein if the event type indicates that a new fabric device has been connected to the fabric, said dynamically changing comprises: accessing a configuration file for one of the one or more host adapter ports to determine if newly connected fabric devices for that host adapter port are to be

dynamically configured; and if the configuration file indicates newly connected fabric

devices are to be dynamically configured, bringing online the new fabric device for that

host adapter port *(Blumenau, col. 33, line 10 – col. 36, line 24).*

30.   Claim 23 has similar limitations of claim 20; therefore, it is rejected under the

same rationale as in claim 20.

31.   Claim 24 has similar limitations of claim 21; therefore, it is rejected under the

same rationale as in claim 21.

32.   As to claim 25, Casper-Blumenau discloses, prior to said receiving an event:

connecting the fabric device to the fabric *(Blumenau, allocating volume to the storage*

subsystem, col. 33, line 10 – col. 36, line 24); and a fabric driver generating the event

indicating that the new fabric device has been connected to the fabric *(Blumenau, col.*

33, line 10 – col. 36, line 24).

33.   As to claim 26, Casper-Blumenau discloses, wherein said accessing a

configuration file comprises reading a user-defined attribute in the configuration file,

wherein the user define attribute indicates whether or not newly connected fabric

devices for that host adapter port are to be dynamically configured upon detection

(Blumenau, col. 33, line 10 – col. 36, line 24).

34.   As to claim 27, Casper-Blumenau discloses, wherein the one or more host

adapter ports comprise Fibre Channel host adapter ports *(Blumenau, Fig. 1; col. 33, line*

10 – col. 36, line 24).

35.   As to claim 28, Casper-Blumenau discloses, wherein the fabric comprises a Fibre

Channel switched fabric comprising a plurality of Fibre Channel switches *(Blumenau,*

Fig. 1; col. 33, line 10 – col. 36, line 24).

36.   As to claim 29, Casper-Blumenau discloses, wherein the fabric is part of a

storage area network (SAN), and wherein the fabric devices comprise storage devices

(Blumenau, Fig. 1; col. 33, line 10 – col. 36, line 24).

37.   As to claim 30, Casper-Blumenau discloses, wherein said dynamically changing

comprises verifying the one or more, fabric devices before bringing the one or more

fabric devices online, wherein said verifying comprises accessing a fabric name server

to determine if the one or more fabric devices are currently connected to the fabric

(Blumenau, Fig. 1; col. 36, line 26 – col. 37, line 53).

38.   Claim 31 is corresponding system claim of claim 1; therefore, it is rejected under

the same rationale as in claim 1.

39.   Claims 32-60 are similar limitations of claims 2-30; therefore, they are rejected

under the same rationale as in claims 2-30.

40.   Claim 61 is corresponding computer readable medium claim of claim 1;

therefore, it is rejected under the same rationale as in claim 1.

41.   Claims 62-90 are similar limitations of claims 2-30; therefore, they are rejected

under the same rationale as in claims 2-30.

42.   Further references of interest are cited on Form PTO-892, which is an
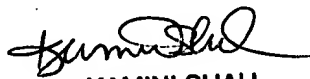
attachment to this action.

Conclusion

43.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hai V. Nguyen whose telephone number is 571-272-

3901. The examiner can normally be reached on 6:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jack Harvey can be reached on 571-272-3896. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Hai V. Nguyen
Examiner
Art Unit 2142

KAMINI SHAH
PRIMARY EXAMINER